



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,731	09/26/2005	Tetsujiro Kondo	277378US6PCT	6057
22850	7590	08/27/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				CHEN, WENPENG
ART UNIT		PAPER NUMBER		
		2624		
NOTIFICATION DATE			DELIVERY MODE	
08/27/2010			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/550,731	KONDO, TETSUJIRO	
	Examiner	Art Unit	
	Wenpeng Chen	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 July 2010.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-108 is/are pending in the application.
 4a) Of the above claim(s) 10, 13, 18-38, 43-45, 48-57, 70-72, 81-87, 95-97, 100-101, 103-104, and 107-108 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-9, 11, 12, 14-17, 39-42, 46, 47, 58-69, 73-81, 88-94, 98, 99, 102, 105 and 106 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 October 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

Election/Restrictions

1. Applicant's election without traverse of Species I in the reply filed on 7/21/2010 is acknowledged. In the reply, the Applicants withdrew Claims 10, 13, 18-38, 43-45, 48-56, 70-72, 81-86, 95-97, 100-101, 103-104, and 107-108 from further consideration as being drawn to nonelected species. In addition, the Examiner concluded that Claims 57 and 87 do not fall into Species I. Claims 57 and 87 are withdrawn by the Examiner.

Drawings

2. Figures 1-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities.

-- The term "the encoding section 2137" in line 12, page 80 shall be changed to "the decoding section 2137".

Appropriate correction is required.

4. The abstract is objected because it exceeds 150 words.

The abstract should be in narrative form and generally limited to a single paragraph within the range of 50 to 150 words. The abstract should not exceed 25 lines of text.

Comments about 35 USC § 101

5. Claims 1-9, 11-12, 14-17, 39-42, 46-47, 58-69, 73-81, 88-94, 98-99, 102, and 105-106 are falling within one of the four statutory categories of invention.

The recitation of "a signal-deteriorating factor" in all independent claims makes each of the claimed subject matter not just an abstract idea.

Claim Objections

6. Claims 46-47 are objected to because of the following informalities:

-- In Claim 46, "an receiving .." in line 2 shall be changed to "a receiving ..".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. Claims 1-9, 11-12, 14-17, 39-42, 46-47, 58-69, 73-81, 88-94, 98-99, 102, and 105-106 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

-- Each of Claims 1, 39-40, 46, 61-62, 64, 73-74, 76, 78-79, 91-92, 94, 98-99, 102, and 105-106 recites "generating a signal-deteriorating factor" or equivalent. Usually, a factor is a value. However, there is no adequate description to teach one skilled in the relevant art what the factor is and how to generate the factor.

Claim Interpretation

8. For examining the pending claims over the prior art, the Examiner considers any "signal which deteriorating another signal" to be "a signal-deteriorating factor".

Claim Rejections - 35 USC § 102

9. Claims 1, 15, 39-40, 42, 46, and 61-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Alvarez (US 6,345,099, 102(b) reference).

Alvarez teaches the following claims as discussed below.

1. An apparatus for encoding data, the apparatus comprising:

-- a receiving section that receives the data; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.)

-- a signal-deteriorating factor generation section for generating a signal-deteriorating factor in the received data based on the received data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- a data-encoding section for obtaining encoded data by performing encoding processing on the data in which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

15. The apparatus for encoding the data according to claim 1,

-- wherein digital data is received at the receiving section; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.)

-- wherein the signal-deteriorating factor generation section includes a phase-shifting section for shifting a phase of the digital data which is received at the receiving section; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59) and

-- wherein the data encoding section includes an encoding section for encoding the digital data whose phase is shifted by the phase-shifting section. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59)

39. An apparatus for encoding data, the apparatus comprising:

-- receiving means for receiving the data; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.)

-- signal-deteriorating factor generation means for generating a signal-deteriorating factor in the received data based on the received data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- data-encoding means for obtaining encoded data by performing encoding processing on the data in which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

40. A method for encoding data, the method comprising:

-- a data-receiving step of receiving the data; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.)

-- a signal-deteriorating factor generation step of generating a signal-deteriorating factor in the received data based on the received data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- a data-encoding step of obtaining encoded data by performing encoding processing on the data in which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

42. The method for encoding the data according to claim 40,

-- wherein digital data is received in the receiving step; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.)

-- wherein the signal-deteriorating factor generation step includes a phase-shifting step of shifting a phase of the received digital data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- wherein the data-encoding step includes an encoding step of encoding the digital data whose phase is shifted. (Fig. 2; controller 108 containing this section; column 3, lines 52-61,

column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

46. An apparatus for encoding data, the apparatus comprising:

-- an receiving section that receives data into which a signal-deteriorating factor for deteriorating a signal is generated, the factor being generated by a signal-deteriorating factor generation section for generating the factor; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.) (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- a data-encoding section that obtains encoded data by performing encoding processing on the data into which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

61. A apparatus for encoding data, the apparatus comprising:

-- receiving means for receiving data into which a signal-deteriorating factor for deteriorating a signal is generated, the factor being generated by a signal-deteriorating factor generation section for generating the factor; (column 3, lines 35-61; Data are received by system

Art Unit: 2624

part 101 of Fig. 1a and 1b from DVD.) (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- data-encoding means for obtaining encoded data by performing encoding processing on the data into which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

62. A method for encoding data, the method comprising:

-- a receiving step of receiving data into which a signal-deteriorating factor for deteriorating a signal is generated, the factor being generated by a signal-deteriorating factor generation section for generating the factor; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.) (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- a data-encoding step of obtaining encoded data by performing encoding processing on the data into which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing

this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

Claim Rejections - 35 USC § 103

10. Claims 2-9, 11, 14, 16-17, 41, 47, 58-60, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alvarez (US 6,345,099) as applied to parent claims as discussed above, and further in view of the admitted prior art (Figs. 1-6 and pages 2-8 of the present specification).

Alvarez teaches the parent claims.

- a. For Claims 2, 41, Alvarez further teaches the following features.
 - 2. The apparatus for encoding the data according to claim 1, wherein analog data is received at the receiving section;
 - wherein the signal-deteriorating factor generation section includes:
 - a phase-shifting section for shifting a phase of digital data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 5, lines 45-68, column 7, lines 34-59; CRT controller 224 shifts the digital data for the horizontal and vertical synchronizing signals are the factor.) and
 - wherein the data encoding section has an encoding section for encoding the digital data whose phase is shifted by the phase-shifting section. (Fig. 2; controller 108 containing this

Art Unit: 2624

section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

Alvarez also discloses that a digitally encoded signal can be converted into an analog television signal for transmission to a television or a VHS recorder thereby making it possible to make a VHS tape recording of a DVD movie played by a computer's DVD player. Typically, such PCs encode a DVD signal for a standard television format, such as NTSC. A VHS recorder can be coupled to a port on the PC which provides an analog television format (e.g. NTSC) signal. This would allow easy copying (legal or illegal) of the contents of a DVD type disc. (column 1, line 42 to column 2, line 2)

However, it does not teach explicitly "an analog-to-digital conversion section for converting the analog data received at the receiving section into digital data" for further processing as recited in the claims.

The admitted prior teaches a system for displaying analog image signal from encoded image from an optical disc and encoding the signal again into digital format and storing in another optical disc comprising:

-- an analog-to-digital conversion section for converting the analog data received at the receiving section into digital data; (A/D 231 of Fig. 1 of the admitted prior art)

-- an encoding section. (encoding section 232 of Fig. 1 of the admitted prior art)

It is desirable to prevent illegal copying of any kind of encoded digital video. It would have been obvious to one of ordinary skill in the art, at least for those in the DVD consortium, at

the time of the invention, to (2) include Alvarez's graphic controller 108 after the A/D 231 of Fig. 1 of the admitted prior art and (2) include encoding section 232 of Fig. 1 of the admitted prior art in Alvarez's VCR 116 because the combination improves copy protection. For this combination, the digital data Vdg outputted from A/D 231 of Fig. 1 of the admitted prior art is used as input to Alvarez's graphic controller 108. Therefore, all the steps or means discussed in Alvarez are applicable to digital signal converted by an A/D converter.

- b. The combination further teaches the features recited in following claims.
 - 3. The apparatus for encoding the data according to claim 2, wherein the analog-to-digital conversion section includes the phase shifting section, to shift a phase of the digital data when the analog-to-digital conversion section converts the analog data into the digital data. (See the discussion of Claim 1.)
 - 5. The apparatus for encoding the data according to claim 2, the apparatus further including a recording section for recording encoded data output from the encoding section on a recording medium. (recording section 233 of Fig. 1 of the admitted prior art)
 - 8. The apparatus for encoding the data according to claim 2, wherein the phase-shifting section fixes a shift width of a phase of the digital data. (Alvarez: column 4, lines 55-67)
 - 9. The apparatus for encoding the data according to claim 2, wherein the phase-shifting section randomizes a shift width of a phase of the digital data. (Alvarez: column 4, lines 55-67)
 - 11. The apparatus for encoding the data according to claim 2, wherein the encoding section performs conversion encoding on the digital data. (Both encoding 232 of Fig. 1 of the admitted prior art and phase-shifting of Alvarez teach this. Any coding of data is a data conversion process.)

14. The apparatus for encoding the data according to claim 2, wherein the encoding section performs data compression encoding on the digital data. (Fig. 2 of the admitted prior art)

17. The apparatus for encoding the data according to claim 1,

-- wherein digital data is received at the receiving section; (See discussed above for Claim 1)

-- wherein the data-encoding section includes the signal-deteriorating factor generation section; (See discussed above for Claims 1 and 2)

-- wherein the data-encoding section includes:

- a first encoding section for encoding the digital data which is received at the receiving section; (the admitted prior art: 303 of Fig. 2)

- a second encoding section for further encoding the digital data encoded by the first encoding section; (the admitted prior art: 304 of Fig. 2) and

- a third encoding section for further encoding the digital data encoded by the second encoding section; (the admitted prior art: 305 of Fig. 2) and

- wherein output data of the first encoding section, the second encoding section, and the third encoding section is deteriorated because the digital data which is received at the receiving section is shifted in phase. (Because the data input to the encoding section 232 is deteriorated with phase-shifting, data at all the steps after it is deteriorated.)

c. Alvarez teaches Claim 2 as discussed above. The combination of Alvarez and the admitted prior art (Figs. 1-6 and pages 2-8 of the present specification) teaches Claim 2 as discussed above.

The admitted prior art further teaches:

-- a decoding section for decoding encoded data output from an encoding section; (decoding section 211 of Fig. 1) and -- a digital-to-analog conversion section for converting the digital data output from the decoding section into analog data. (D/A section 212 of Fig. 1)

However, no decoding is performed on Vcd of Fig. 1.

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to try to see image recorded in recording section 233, at least for the first time, on display 220 of the admitted prior art with reproducing the recorded image in reproducer 210 of Fig. 1 of the admitted prior art. The combination thus also teaches:

4. The apparatus for encoding the data according to claim 2, the apparatus further comprising:

-- a decoding section for decoding encoded data output from the encoding section; and -- a digital-to-analog conversion section for converting the digital data output from the decoding section into analog data.

6. The apparatus for encoding the data according to claim 4,

-- wherein the digital data is image data, and -- wherein the apparatus further comprises an image display section for displaying an image due to analog data output from the digital-to-analog conversion section.

7. The apparatus for encoding the data according to claim 4, wherein the digital data is audio data, and wherein the apparatus further comprises an audio output section for outputting an audio due to analog data output from the digital-to-analog conversion section. (Alvarez: column

1, line 42 to column 2, line 2; Alvarez discloses that a digitally encoded signal can be converted into an analog television signal for transmission to a television or a VHS recorder thereby making it possible to make a VHS tape recording of a DVD movie played by a computer's DVD player. Typically, such PCs encode a DVD signal for a standard television format, such as NTSC. A VHS recorder can be coupled to a port on the PC which provides an analog television format (e.g. NTSC) signal. This would allow easy copying (legal or illegal) of the contents of a DVD type disc. It is inherently, a television requires video and audio signals for display programs.)

16. The apparatus for encoding the data according to claim 15, further comprising:

-- a decoding section for decoding encoded data output from the encoding section; and

-- a digital-to-analog conversion section for converting the digital data output from the

decoding section into analog data.

For Claims 47 and 63, when one records an originally video (first digital signal) from a coded digital storage into another storage in recording section 233 of Fig. 1 of the admitted prior art and try to display it later on display 220, basically the apparatus taught by the combination performs all the function recited in Claims 47 and 63.

58. The apparatus for encoding the data according to claim 47, wherein the analog distortion occurs when a signal is shifted in phase in the digital-to-analog conversion. (Alvarez: column 10, lines 49-64; When a signal is distorted, the distortion will show up at every steps after the signal is distorted.)

59. The apparatus for encoding the data according to claim 47, wherein the digital signal is a digital image signal. (Alvarez: column 1, line 42 to column 2, line 2; It is inherently, a DVD signal has digital image and audio signals.)

60. The apparatus for encoding the data according to claim 47, wherein the digital signal is a digital audio signal. (Alvarez: column 1, line 42 to column 2, line 2; It is inherently, a DVD signal has digital image and audio signals.)

11. Claims 64-69, 73-81, 88-94, 98-99, 102, and 105-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Figs. 1-6 and pages 2-8 of the present specification) in view of Alvarez (US 6,345,099).

a. For Claim 64, the admitted prior teaches a system for displaying analog image signal from encoded image from an optical disc and encoding the signal again into digital format and storing in another optical disc comprising:

-- a data output section that outputs encoded digital data; (page 2, lines 26-29 of the present specification)
-- a data decoding section that obtains decoded data by decoding the output digital data. (page 2, lines 26-29 of the present specification)

However, the admitted prior art does not teach the features related to synchronization signal, signal-deteriorating factor, and synthesis section.

Alvarez teaches an apparatus for encoding data, the apparatus comprising:
-- a synchronization signal generation section that generates a synchronization signal corresponding to the decoded data; (column 6, lines 18-67; synchronizing signal 201, 202)

-- a signal-deteriorating factor generation section that generates a signal-deteriorating factor promoting signal deterioration into the decoded data according to the decoded data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- a synthesis section that synthesizes data output from the signal-deteriorating factor generation section and the synchronization signal generated by the synchronization signal generation section. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

It is desirable to prevent illegal copying of encoded digital video. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to (1) include Alvarez's graphic controller 108 after the A/D 231 of Fig. 1 of the admitted prior art and (2) include encoding section 232 of Fig. 1 of the admitted prior art in Alvarez's VCR 116 because the combination improves copy protection.

For Clams 73, 74, 76, 78, 79, 91-92, 105-106 which recite features similar to Claim 64, the above ground of rejection is also applied.

b. The combination further teaches the features recited in following claims.

65. The apparatus for outputting data according to claim 64,

-- wherein the signal-deteriorating factor generation section includes a phase-shifting section for shifting a phase of the synchronization signal generated by the synchronization signal

generation section and a phase of the digital data output from the decoding section with respect to each other; (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and -- wherein the synthesis section synthesizes the synchronization signal whose phase is shifted respectively by the phase shifting section and the digital data. (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

66. The apparatus for outputting data according to claim 65, wherein the data output section reproduces the digital data from a recording medium and outputs it. (the admitted prior art: page 2, lines 26-29)

67. The apparatus for outputting data according to claim 65, further comprising a digital-to-analog conversion section for converting the digital data output from the synthesis section into analog data. (the admitted prior art: page 2, lines 26-29)

68. The apparatus for outputting data according to claim 65, wherein the phase shifting section fixes a shift width of the phase. (Alvarez: column 4, lines 55-67)

69. The apparatus for outputting data according to claim 65, wherein the phase shifting section randomizes a shift width of the phase. (Alvarez: column 4, lines 55-67)

75. The apparatus for outputting data according to claim 74,

-- wherein the signal-deteriorating factor generation step includes a phase-shifting step of shifting a phase of the generated synchronization signal and a phase of the digital data obtained by decoding with respect to each other; (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- wherein the synthesis step synthesizes the synchronization signal and the digital data whose phases are shifted respectively. (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

77. The system for processing the signal according to claim 76,

-- wherein the encoded data received at the receiving section is an encoded digital signal and the data-decoding section obtains a decoded digital signal by performing decoding processing on the encoded digital signal; (the admitted prior art: decoding section 211 of Fig. 1)

-- wherein the signal-deteriorating factor generation section includes:

-- a digital-to-analog conversion section for obtaining an analog signal containing analog distortion by performing digital-to-analog conversion processing on the decoded digital signal obtained by the data-decoding section; (the admitted prior art: D/A section 212 of Fig. 1) and

-- an analog-to-digital conversion section for obtaining a digital signal by performing analog-to-digital conversion processing on the analog signal obtained by the digital-to-analog conversion section; (the admitted prior art: A/D 231 of Fig. 1 of the admitted prior art)

-- wherein the data-encoding section includes an encoding section for obtaining an encoded digital signal by performing encoding processing on the digital signal obtained by the analog-to-digital conversion section; (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.) and

-- wherein the encoding processing performed by the encoding section promotes deterioration in the encoded digital signal owing to an influence of the analog distortion on the digital signal. (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

80. The apparatus for processing the signal according to claim 79,

-- wherein the encoded data that is received at the receiving section is an encoded digital signal and the data-decoding section obtains a decoded digital signal by performing decoding processing on the encoded digital signal; (the admitted prior art: decoding section 211 of Fig. 1)

-- wherein the signal-deteriorating factor generation section includes:

- a digital-to-analog conversion section for obtaining an analog signal containing analog distortion by performing digital-to-analog conversion processing on the decoded digital signal obtained by the data-decoding section; (the admitted prior art: D/A section 212 of Fig. 1) and

- an analog-to-digital conversion section for obtaining a digital signal by performing analog-to-digital conversion processing on the analog signal obtained by the digital-to-analog conversion section; (the admitted prior art: A/D 231 of Fig. 1 of the admitted prior art)

-- wherein the data-encoding section includes an encoding section for obtaining an encoded digital signal by performing encoding processing on the digital signal obtained by the analog-to-digital conversion section; (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.) and

-- wherein the encoding processing performed by the encoding section promotes deterioration in the encoded digital signal owing to an influence of the analog distortion on the digital signal. (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

81. The apparatus for processing the signal according to claim 80, wherein the encoding section includes:

-- a blocking section for blocking the digital signal obtained by the analog-to-digital conversion section; (admitted prior art: element 302 of Fig. 2)

-- a block-encoding section for obtaining an encoded digital signal by performing block encoding on data of each of blocks obtained by the blocking section. (admitted prior art: elements 303-305 of Fig. 2)

88. The apparatus for processing the signal according to claim 80, wherein the analog distortion occurs when a signal is shifted in phase in the digital-to-analog conversion. (Alvarez: column 10, lines 49-64; When a signal is distorted, the distortion will show up at every steps after the signal is distorted.)

89. The apparatus for processing the signal according to claim 80, wherein the digital signal is a digital image signal. (Alvarez: column 1, line 42 to column 2, line 2; It is inherently, a DVD signal has digital image and audio signals.)

90. The apparatus for processing the signal according to claim 80, wherein the digital signal is a digital audio signal. (Alvarez: column 1, line 42 to column 2, line 2; It is inherently, a DVD signal has digital image and audio signals.)

93. The method for processing the signal according to claim 92,
-- wherein the encoded data that is received in the receiving step is encoded digital data and the data-decoding step is provided to obtain a decoded digital signal by performing decoding processing on the encoded digital signal; (the admitted prior art: decoding section 211 of Fig. 1)
-- wherein the signal-deteriorating factor generation step includes:

- a digital-to-analog conversion step of obtaining an analog signal containing analog distortion by performing digital-to-analog conversion processing on the decoded digital signal obtained by the data-decoding step; (the admitted prior art: D/A section 212 of Fig. 1) and
- an analog-to-digital conversion step of obtaining a digital signal by performing analog-to-digital conversion processing on the analog signal obtained by the digital-to-analog conversion step; (the admitted prior art: A/D 231 of Fig. 1 of the admitted prior art)
 - wherein the data-encoding step includes an encoding step of obtaining an encoded digital signal by performing encoding processing on the digital signal obtained by the analog-to-digital conversion step; (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.) and
 - wherein the encoding processing performed by the encoding step promotes deterioration in the encoded digital signal owing to an influence of the analog distortion on the digital signal. (Alvarez: Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

c. For Claim 98, the admitted prior art teaches an apparatus for decoding data , the apparatus comprising:

-- receiving means for receiving encoded data; (page 2, line 26-29; Encoded data are received from a recorded medium.) and

-- data-decoding means for obtaining decoded data by performing decoding processing on the received encoded data. (page 2, line 26-29; decoding section 211 of Fig. 1)

However, the admitted prior art does not teach that the encoded data to be encoded by an encoding apparatus including a signal-deteriorating factor generation section that generates a factor for deteriorating a signal.

Alvarez teaches an apparatus for encoding data, the apparatus comprising:

-- a receiving section that receives the data; (column 3, lines 35-61; Data are received by system part 101 of Fig. 1a and 1b from DVD.)

-- a signal-deteriorating factor generation section for generating a signal-deteriorating factor in the received data based on the received data; (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay (shift) for the horizontal and vertical synchronizing signals are the factor.) and

-- a data-encoding section for obtaining encoded data by performing encoding processing on the data in which the signal-deteriorating factor is generated so that signal deterioration may be promoted in accordance with the signal-deteriorating factor. (Fig. 2; controller 108 containing this section; column 3, lines 52-61, column 4, lines 18-25, column 4, line 55 to column 5, line 25, column 7, lines 34-59; The amounts of delay for the horizontal and vertical synchronizing signals are the factor. The data are encoded with the amounts of delay (shift) for the horizontal and vertical synchronizing signals.)

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to try to see image recorded in recording section 233, at least for the first time, on display 220 of the admitted prior art with reproducing the recorded image in reproducer 210 of Fig. 1 of the admitted prior art. It would have been also obvious for one of ordinary skill in the art in medium industry , at the time of the invention, to examine the effectiveness of image deterioration for image recorded in recording section 233 after inserting copy protection signal on display 220 of the admitted prior art with reproducing the recorded image in reproducer 210 of Fig. 1 of the admitted prior art. The combination thus also teaches all features recited in Claim 98.

For Clams 94, 99, and 102 which recite features similar to Claim 98, the above ground of rejection is also applied.

Examiner's Comment

12. Claim 12 is not rejectable over the prior art.

The following is a statement of reasons for this conclusion. The prior art fails to teach the Claim 12 which specifically comprises the following features in combination with other recited limitations:

-- an extraction section for **extracting digital data from a predetermined range of the digital data whose phase is shifted by the phase-shifting section;**

-- a dynamic range detection section for detecting a dynamic range of the digital data extracted by the extraction section, based on the maximum value detected by the maximum value detection section and the minimum value detected by the minimum value detection section;

-- a quantization section for **quantizing the minimum value-removed data generated by the generation section, by using a quantization step determined in accordance with the dynamic range** detected by the dynamic range detection section.

Conclusion

13. The prior art made of record in form PTO-892 and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 571-272-7431. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 571-273-8300 for After Final communications. TC 2600's customer service number is 571-272-2600.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

/Wenpeng Chen/
Primary Examiner, Art Unit 2624

August 18, 2010